Clean Air Act Compliance Inspection Report

United States Environmental Protection Agency
Region 10 – Seattle, WA

Clean Air Act Partial Compliance Evaluation Inspection Report

Hilcorp Alaska, LLC

Kenai Peninsula, AK 99611

Inspection Date: October 3 – 4, 2022

Steve Rapp

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Date: 2022.11.22 09:54:40 -05'00'

Report Author Signature Date

Steve Rapp
Senior Engineer
EPA Contract Inspector

JOHN PAVITT

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John Pavitt
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JOHN KEENAN

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1. Basic Facility and Inspection Information

Facility 1:	Kenai Gas Field Pad 34-31 35350 Kalifornsky Beach Road Kenai, AK 99611
Facility Coordinates:	Latitude: 60.474862 Longitude: -151.274115
Facility 2:	Beaver Creek Unit Pad 3 Approximately 11 Miles east on Marathon Road. Kenai Peninsula – Well Site Kenai, AK 99611
Facility Coordinates:	Latitude: 60.65771 Longitude: -151.02144
Facility 3:	Beaver Creek Unit Pad 4 Approximately 11 Miles east on Marathon Road. Kenai Peninsula – Well Site Kenai, AK 99611
Facility Coordinates:	Latitude: 60.65651 Longitude: -151.03222
AFS/FRS Number:	Kenai Gas Field Pad 34-31: AK0000000212200075 Beaver Creek Production Facility: AK0000000212200003
SIC:	1311 Crude Petroleum and Natural Gas
NAICS:	211111 Crude Petroleum and Natural Gas Extraction
Permit Number:	Kenai Gas Field Pad 34-31 AQ0087TVP04 Issued: May 26, 2021 Beaver Creek Production Facility AQ0070TVP04 Issued: May 18, 2022
Facility Contacts:	Natalia Lau Air Quality Specialist (907) 777-8304 Natalia.lau@hilcorp.com

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Alaska Department of Environmental Conservation

Dates of Inspection:

October 3 – 4, 2022

Inspection Start/End Times: October 3, 2022, 12:45 pm – 5:30 pm
October 4, 2022, 8:15 am – 3:00 pm

Inspection Notice: This was an announced inspection.

This was a Clean Air Act ("CAA") compliance inspection of three facilities owned by Hilcorp Alaska, LLC ("Hilcorp"), by the United States Environmental Protection Agency ("EPA"). John Pavitt, EPA, led the inspection. Contractor personnel, Steve Rapp and Bryan Lange, from Eastern Research Group, Inc. ("ERG"), assisted in the inspection. The Alaska Department of Environmental Conservation ("ADEC") was made aware of the inspection beforehand and Rachel McKenna participated in the inspection. The purpose was to identify potential compliance concerns with CAA regulations. Specifically, the inspections focused on compliance with New Source Performance Standards ("NSPS") Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 ("Subpart OOOOa"). The Kenai Gas Field ("KGF") and Beaver Creek Units ("BCU") are existing facilities which became subject to the rule when they were modified or reconstructed after September 18, 2015.

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection and from a subsequent records review. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

1. Facility/Process Description:

The following facility description is based on information provided by a facility representative in the opening conference as well as information found on-file regarding permits and prior inspections.

Hilcorp's KGF and BCU gas fields are located in the Kenai Peninsula of Alaska.

The KGF facility has multiple gas production pads which operate under separate Title V air permits. The KGF Pad 34-31 operates under Title V air permit AQ0087TVP04 issued on May 26, 2021 and revised on May 13, 2022. The permit includes four compressors, one emergency generator and two mobile rig boilers. The facility also has a pig[1] launching and receiving operation to clean pipelines, which is not included with the list of permitted emission units. Although the permit was issued in May 2021 and revised in May 2022 and the facility became subject to Subpart OOOOa in January 2021, the permit does not include terms and conditions for that subpart.

[1] Pigging is the practice of using mechanical devices known as 'pigs' to perform various pipeline maintenance, cleaning and inspection operations.

The BCU facility consists of multiple production pads which operate under a single Title V air permit, AQ0070TVPO4 issued on May 18, 2022, and revised on September 21, 2022. The facility consists of five gravel pads, oil and gas gathering facilities, oil storage and truck loading facilities, and miscellaneous support facilities. The permit includes the requirements of Subpart OOOOa.

This inspection looked at the "Pad 34-31" within the KPF field and "Pad 3" and "Pad 4" within the BCU field. These production wells bring well gas and fluids to the surface and prepare them for transport to a nearby refinery or processing plant. The SIC code for the facilities is 1311, Crude Petroleum and Natural Gas Production and the NAICS codes for the facilities are 211111, Crude Petroleum and Natural Gas Extraction and 211120, Crude Petroleum Extraction.

2. Compliance History

A review of EPA's database, Enforcement and Compliance History Online ("ECHO"[2]) indicates the following air compliance activities at the two Hilcorp facilities over the last five years:

KGF Pad 34-31:

Formal Enforcement Actions	None.
Informal Enforcement Actions	Alaska warning letter on 7/14/2021
Full Compliance Evaluations (FCE) by State	Three FCEs: 4/19/2022; 7/27/20; and 9/24/2018
Partial Compliance Evaluations (PCE) by State	One on-site PCE (stack test): 9/30/20
Quarters with Noncompliance (of 12)	1
Quarters on High Priority Violators (HPV) List	None.

Beaver Creek Production Facility

Formal Enforcement Actions	Hilcorp Beaver Creek 9292017 / AQ0070TVP03P. Consent Agreement and Final Order dated 02/08/2022 (see additional detail below).
Informal Enforcement Actions	Notice of Violation Date: 02/25/2021
Full Compliance Evaluations (FCE) by State	Two FCEs: 06/10/2021; 8/22/2019
Partial Compliance Evaluations (PCE) by State	Four on-site PCEs: 06/06/2022 (stack test); 9/22/2020 (stack test); 10/16/2019 (stack test); and 9/6/2018 (stack test)
Quarters with Noncompliance (of past 12)	10
Quarters as High Priority Violators (HPV) (of past 12)	10

[2] https://echo.epa.gov/

On February 7, 2022, Region 10 filed a consent agreement and final order (CAFO) with Hilcorp Alaska, LLC and Hilcorp North Slope, LLC (collectively, "Hilcorp") resolving violations of Subpart OOOOa under the CAA. EPA alleged Hilcorp violated NSPS requirements at approximately 35 of its 72 affected facilities in Alaska. EPA found the company failed to repair vapor leaks of volatile organic compounds (VOC) and methane within required deadlines, to re-check their repairs, to conduct an initial leak inspection at Beaver Creek Unit Pad 4 after it started up, and to report accurately on their leak detection and repair activities from 2018-2020. The CAFO required Hilcorp to pay a penalty of $180,580.

3. Day 1 Inspection Elements/Order

a. Pre-Inspection Records Review

The following company records were reviewed prior to the inspection:

- ADEC – Title V Operating Permit AQ0087TVP04 and Statement of Basis for KGF Pad 34-31. Issued May 26, 2021.
- Hilcorp Alaska, LLC – Application for a Minor Modification to Title V Operating Permit AQ0087TVP04, KGF Pad 34-31. Dated September 7, 2021.
- ADEC – Title V Operating Permit AQ0070TVPO4 for Beaver Creek Production Facility issued on May 18, 2022 and revised on September 21, 2022.
- ADEC – Title V Operating Permit AQ0070TVP03 and Statement of Basis for Beaver Creek Production Facility. Issued June 29, 2016.
- ADEC – Air Quality Control Minor AQ0070MSS02 for Beaver Creek Production Facility. Issued June 24, 2013.
- ADEC – Activity Report for Hilcorp Alaska, LLC; KGF 34-31 Pad and KGF 14-06 Pad. On-Site Inspection (Subpart OOOOa). Report date, August 24, 2021.
- EPA – Air Compliance Inspection Report for Hilcorp Alaska, LLC; Swanson River Unit Pad 32-15 and the KPF Pad 14-06. Inspection dates September 8-9, 2020.
- EPA – Notice of Violation and Information Request for Hilcorp Alaska, LLC. Dated April 16, 2020.
- Hilcorp Alaska, LLC – NSPS Subpart OOOOa – Fugitive Emissions Monitoring Plan. Dated June 13, 2022.
- Hilcorp Alaska, LLC – Hilcorp Kenai OOOOa Survey - September 2022.
- Hilcorp Alaska, LLC – Hilcorp Kenai OOOOa Survey - February 2022.
- Hilcorp Alaska, LLC – NSPS Subpart OOOOa – Fugitive Emissions Survey Recordkeeping Forms:
    - September 2022. Locations: KGF Pad 34-31, BCU Pad 3, and BCU Pad 4.
    - February 2022. Locations: KGF Pad 34-31, BCU Pad 3, and BCU Pad 4.
    - February 2021. Locations: KGF Pad 34-31 and KGF 14-06.
- Hilcorp Alaska, LLC – NSPS Subpart OOOOa – 2020 Annual Report. Dated March 31, 2021.
- Hilcorp Alaska, LLC – NSPS Subpart OOOOa – Fugitive Emissions Observation Paths. KGF Pad 34-31 (map updated 06/15/2021) and KGF Pad 14-06 (map updated 09/29/2017).
- Hilcorp Alaska, LLC – Response to an EPA Records Request. Dated August 31, 2020.

- Hilcorp Alaska, LLC – Response to the Air Compliance Inspection Report for Milne Point Production Facility Received on October 29, 2019. Dated December 12, 2019.

b. Pre-Inspection Observations

ERG calibrated two leak detection instruments prior to arrival at the Hilcorp facility: 1) the Thermo Scientific, Toxic Vapor Analyzer, TVA 2020-A4C3B2, serial number 202019064291 ("TVA") and 2) the FLIR GF320 optical gas imaging ("OGI," or "FLIR") camera, model number GF320, serial number 44401313.

The inspectors went directly to the KGF facility. No observations were made prior to the scheduled inspection.

c. Entry and Opening Conference

Mr. Pavitt, Ms. McKenna, Mr. Rapp and Mr. Lange ("the inspectors") arrived at the KGF Pad 34-31 at approximately 12:45 pm on October 3, 2022. The inspectors noted the following weather conditions: mostly cloudy, wind 0 – 3 miles per hour ("mph"), temperature approximately 55 °F. At the KGF administrative building, they met with Natalia Lau, Greg Author, Chad Johnson, Andy Graves, Brad Duwe, and Shawn Holman ("the facility representatives"). The inspectors presented inspection credentials (Mr. Pavitt and Ms. McKenna) and identification card (Mr. Rapp and Mr. Lange).

Inspector Pavitt explained that the purpose of the inspection was to check on compliance with NSPS Subpart OOOOa under the CAA. He explained that the inspection would consist generally of a facility walkthrough along the Subpart OOOOa observation path at each of the three well pads. Further, he explained that during the walkthrough the inspectors would survey the well pad components for leaks and emissions of hydrocarbon compounds using the TVA and the FLIR camera. He explained that the inspectors would want to check the pieces of equipment that had been monitored in February and September 2022 semiannual surveys and reported as leaking at the KGF 34-31 site, including the compressor building, contractor building, meter building, reboiler #5 building, and well KU 14-32. He also asked the Hilcorp representatives to explain why several leaks listed in the Subpart OOOOa monitoring reports as "technically infeasible" to repair but also listed as "repaired," for example, a valve leak dated August 19, 2021.

Inspector Pavitt explained that Hilcorp could claim that information, such as photos and videos, were confidential business information ("CBI") and that EPA would provide them with copies of its photos. He provided them a copy of EPA's Small Business Assistance fact sheet.

The Hilcorp representatives explained that they had added two compressors on May 13, 2022. They said that the new equipment was monitored as part of the facility's Subpart OOOOa monitoring, although not included in Hilcorp's Subpart OOOOa fugitive emissions monitoring plan ("FEMP"), dated June 13, 2022. Further, they explained that KGF 34-31 site was a gas production site and did not include oil wells or processing. They said that the KGF facility was producing about 28 million standard cubic feet ("scf") on the day of the inspection.

Before beginning the facility walkthrough, the inspectors had a safety briefing with the facility representatives in the Contractor Building. The facility representatives explained that safety concerns at the site included slips, trips and falls, as well as the possibility of gas leaks and fires. They explained their system of alarms and where the muster areas would be. They explained personal protective equipment ("PPE") needed on site were flame retardant clothing, hard hat, steel toed boots, eye shields and hearing protection. The representatives also explained that during the inspection, they would use a handheld instrument to measure the Lower Explosive Limit ("LEL") of gases inside enclosures and around the equipment.

4. Day 1 Facility Walk-Through (Kenai Gas Field Pad 34-31)

At approximately 1:30 pm, the inspectors and Hilcorp representatives began the walkthrough of the KGF Pad 34-31 facility. They generally followed the observation path indicated in Hilcorp's FEMP, dated June 13, 2022 (see Attachment 1). However, EPA noted that the aerial photo included in the June 2022 FEMP did not include two new compressor buildings installed in May 2022. During the walkthrough, Inspector McKenna took photos with a digital camera, Inspector Lange took videos in various modes, including high sensitivity mode,[3] as well as photos, with the FLIR, Inspector Rapp took measurements with the TVA, and Inspector Pavitt wrote down observations as Inspector Lange and Rapp called out information.

The inspectors and facility representatives monitored along the following path: Well 1106 to Well KU 21-06RD to Well KU34-31 to the Gas Meter Building to the Jumpover Building to the Wastewater Building to the Meter Building to the Glycol Dehydrator to the Contactor Building to the Reboiler Building to the Compressor Building to the new Compressor Building (housing Unit 101) to the new Compressor Building (housing Unit 102) to Well KU 24-32 to Well 22-6X to Well KU 14-32 to Well KU 44-01B to the Pig Launching Station.

During the walkthrough, the inspectors identified eight leaks:

- two at Well KU 21-06RD;
- one at Well KU 34-31;
- two in the Meter Building;
- one in the Compressor Building;
- one in the new Compressor Building (housing Unit 101); and
- one in the new Compressor Building (housing Unit102).

For all the leaks, Hilcorp personnel attempted to make a repair shortly after detection. All the leaks, except the one in Compressor Building (housing Unit 102), were repaired the same day and confirmed by observing the location again with the FLIR and TVA. See Attachment 4 for the list, including the location, description, leak number, maximum TVA reading (ppm), FLIR video number, FLIR photo number, digital camera photo numbers, and notes. EPA's digital photo and FLIR video log noting leak locations and repairs is also attached to this report (see Attachments 2 and 3).

[3] High sensitivity mode is an adjustment method that is specifically designed for gas detection applications.

Other observations at KGF 34-31:

- The Hilcorp representatives noted that a new glycol dehydrator was added to the facility and is subject to 40 C.F.R. Part 63, Subpart HH and was added to the facility's permit but is not shown in the June 2022 Subpart OOOOa FEMP.
- The Hilcorp representatives noted that the boiler equipment has been removed from the Reboiler Building.

The walkthrough ended at approximately 5:30 pm. Inspector Pavitt provided the Hilcorp representatives with an oral summary of the inspectors' findings. The group made plans to begin at 8:30 am the following day and to meet at the gate of the Beaver Creek facility at approximately 8:15 am.

5. Day 2 Inspection: Pre-inspection Activity

At approximately 8:00 am, ERG calibrated the TVA and the FLIR.

6. Entry and Opening Conference

At approximately 8:30 am, the inspectors met at a common gate for Beaver Creek Unit Pads 3 and 4. At approximately 8:45 am, the inspectors arrived at the Beaver Creek administrative building. The weather was mostly cloudy, approximately 45 °F, with winds 0 – 2 mph, and rain forecast for later that day. The inspectors were met by the facility representatives from the prior day as well as James Spalding – Production Operations Lead. The inspectors presented inspection credentials and Inspector Pavitt explained the plan for the day at BCU Pads 3 and 4. The purpose was the same as the day before: to check on compliance with Subpart OOOOa. He explained that we would generally follow the facility's Subpart OOOOa monitoring path for the two pads in the FEMP, dated June 13, 2022 (see Attachments 5 and 6) and that EPA would use the FLIR and TVA to check for leaks of hydrocarbons and methane. The representatives noted that the combined output for the Beaver Creek facility was producing approximately 10.9 million scf and 580 barrels ("BBL") of oil on the day of the inspection.

Before beginning the Beaver Creek facility walkthrough, the facility representatives provided a safety briefing. They explained that safety concerns at the site included slips, trips and falls, as well as the possibility of gas leaks and fires. They explained their system of alarms and where the muster areas would be. The representatives also explained that during the inspection, they would use a handheld instrument to measure LEL of gases inside enclosures and around the equipment.

7. Day 2 Facility Walk-Through (Beaver Creek Unit Pads 3 and 4)

BCU Pad 4

Beginning at approximately 9:15 am, the inspectors and Hilcorp representatives began the walkthrough of BCU Pad 4 generally following the Subpart OOOOa FEMP monitoring observation path. During the walkthrough, Inspector McKenna took photos with a digital camera, Inspector Lange took videos in various modes, including high sensitivity mode, as well as photos, with the FLIR (see Attachment 3), Inspector Rapp took measurements with the TVA,

and Inspector Pavitt wrote down observations as Inspector Lange and Rapp called out information.

The inspectors and facility representatives monitored along the following path: the Shipping Pump to the Oil Storage Tanks (including the new and old tanks) to the Oil Flow Pipes to the Truck Loading Station to the Smart Ash Burner to the Chemical Wastes Building to Well BCU-04RD to the Line Heater to the Compressor Building and to the Heater Treater.

During the walkthrough, the inspectors identified eight leaks:
- three at the Line Heater;
- three in the interior of the Compressor Building;
- one at the exterior of the Compressor Building; and
- one at the Heater Treater.

For all of the leaks, Hilcorp personnel attempted to make a repair shortly after detection. However, the four leaks at the Line Heater and one of the leaks in the Compressor Building were not repaired successfully on the day of the inspection. The other leaks that were repaired the same day were confirmed by observing the location again with the FLIR and TVA. See Attachment 7 for the list, including the location, description, leak number, maximum TVA reading (ppm), FLIR video number, FLIR photo number, digital camera photo numbers, and notes. EPA's photo log noting leak locations and repairs is also attached to this report (Attachment 2).

Other observations at Pad 4:
- A steady stream of hydrocarbon vapors were visible with and without the FLIR from the vent at the top of the old storage tank (see FLIR video 2680).
- The equipment shown on the east side of the facility in the aerial photo in the June 2022 FEMP had been previously removed, and above-ground pipes visible in the aerial photo had been buried underground.
- Cloth wrap used on several of the gas lines may be covering flanges and valves.

The inspectors departed from Pad 4 at approximately 11:47 am.

BCU Pad 3

The inspectors arrived at Pad 3 at approximately 11:49 am. Beginning at approximately 12:00 pm, the inspectors and Hilcorp representatives began the walkthrough of BCU Pad 3 generally following the Subpart OOOOa FEMP monitoring observation path. During the walkthrough, Inspector McKenna took photos with a digital camera, Inspector Lange took videos in various modes, including high sensitivity mode, as well as photos, with the FLIR (see Attachment 3), Inspector Rapp took measurements with the TVA, and Inspector Pavitt wrote down observations as Inspector Lange and Rapp called out information.

The inspectors and facility representatives monitored along the following path: Well BC-11 to Well BC-10 to Well BC-24 to Well BC-23 to Well BC-19 to the Heater Separator Unit ("HSU") for Well BC-19 to the BC-23 HSU to Well BC-16 to BC-13 HSU to the BC-24 HSU to T-Pack 19 to the high- and low- pressure Pig Launchers and to the Produced Water Tank Building.

During the walkthrough, the inspectors identified ten leaks:
- one at Well BCU 24;
- three at BC-13 HSU;
- one at BC-24 HSU;
- four at T-Pack 19; and
- one at the high-pressure Pig Launcher.

For all the leaks, Hilcorp personnel attempted to make a repair shortly after detection. However, one leak at the BC13 HSU, the leak at the BC-24 HSU, and the four leaks at the T-Pack 19 were not repaired successfully on the day of the inspection. The other leaks that were repaired the same day were confirmed by observing the location again with the FLIR and TVA. See Attachment 8 for the list, including the location, description, leak number, maximum TVA reading (ppm), FLIR video number, FLIR photo number, digital camera photo numbers, and notes. EPA's photo log noting leak locations and repairs is also attached to this report (Attachment 2).

Other observations at Pad 3:
- Vapors were noted with the FLIR coming from one of the two horizontal vents on the Produced Water Tank Building although the tank is not heated.

8. Closing Conference

At approximately 2:00 pm, the inspectors returned to the BCU administrative building for a closing conference. During the closing conference, the inspectors explained that they had several potential compliance concerns and clarifying questions.

a. Compliance Concerns

Inspector Pavitt first noted that leaks were found at all three locations although Hilcorp's third party contractor had conducted a semiannual survey approximately one month ago in September 2022. He noted several of the leaks identified during the survey were now repaired. However, he noted that during the 2-days of the inspection, EPA identified other leaks. Mr. Pavitt recommended a discussion with the LDAR contractor about the possibility that leaks were missed. He noted that approximately half the leaks identified during the inspection by EPA were fixed by Hilcorp staff immediately with techniques including tightening a fitting with a wrench or disconnecting a gage, applying fresh Teflon tape and re-connecting the gauge. For those leaks not immediately repaired, he explained that EPA would be asking Hilcorp about the status of those repairs and justification for any delays (e.g., where equipment or process shutdown is required). He noted that EPA's identification of a leak begins a required repair schedule.

The facility representatives requested a list of any leaks observed by EPA and not immediately repaired. They explained that they wanted to ensure that all repairs are made within the appropriate regulatory timeframe. Mr. Pavitt agreed to share his notes within approximately 2-weeks of the inspection (i.e., October 18, 2022). Further, he said that EPA would share a link to EPA's share-drive that would include the FLIR video and digital photo files.

The facility representatives noted the variance between the TVA and OGI/FLIR measurement methods and emphasized that the number of leaks identified by TVA were more evident than those identified by the FLIR. Mr. Pavitt acknowledged that there are two accepted reference methods for leak detection.

Mr. Pavitt noted that when the inspectors entered certain buildings or equipment housings, they noted greater than 150 ppm of methane (e.g., when T-Pack 19 was opened). He noted that while concentrations may not have approached the LEL, there could still be a spark and occupational risk. Further, such background concentrations could indicate that there are leaking components in close proximity. If EPA's observations indicate a pattern of leaks associated with certain equipment (e.g., gauges, valves), then perhaps operations and maintenance program procedures should be modified to mitigate these patterns.

Second, Mr. Pavitt noted that the June 2022 Subpart OOOOa FEMP observation path maps were out of date due to physical changes at the well pads. He noted than an out-of-date map could confuse a support contractor. Further, physical changes may also trigger a requirement to modify the plan under Subpart OOOOa. The inspectors observed the following changes that were not reflected in the June 2022 FEMP:

- the Kenia Gas Field 34-31 map did not include the 2 new compressor buildings or the new glycol dehydrator;
- the boiler equipment has been removed from the Kenia Gas Field 34-31 Reboiler Building;
- T-Pack-BC 9 is now BC-19; and
- there were several pieces of equipment shown on the aerial photo of BCU Pad 4 that are no longer there.

Inspector Pavitt noted that several times when a leak was determined by the inspectors, facility representatives used a piece of ribbon to "tag" unrepaired leaks. He noted however, that a ribbon could be multi-purpose. The inspectors noted orange ribbons attached to equipment several times during the walkthrough, and that if leaks were not repaired, they need a tag or a photo.

b. Clarifying Questions

Mr. Pavitt asked a clarifying question about a tag observed that identified a vent from a component as a tattletale hole. Chad Johnson with Hilcorp described the vent as operating in a manner consistent with the manufacturer's design. Specifically, the tattletale vent is a pinhole that is an indication that the packing should be repaired before a complete failure occurs. Inspector Pavitt explained that, if correct, this vent is not a fugitive emission and Hilcorp should send EPA information provided by the manufacturer so that it can be included in the inspection project file.

Mr. Pavitt asked a clarifying question about annual reports submitting through CEDRI. Specifically, there was confusing phrasing in last year's annual report. Some leaks were categorized as "technically infeasible" to repair, then later the leaks were successfully repaired (e.g., BCU Pad 4; Feb 21-22; gas starter. KGF Pad 34-31; August 20-21). Chad Johnson with Hilcorp indicated that the infeasible statement likely meant replacement parts were needed and an immediate repair was not feasible. Hilcorp should clarify the original intent of this phrase.

Mr. Pavitt also asked Hilcorp to clarify the naming convention for the compressors located at KGF Pad 34-31. Specifically, the compressors are labeled both C-101 / C-102 and emission unit ID 43 / 44 in their air permit.

Mr. Pavitt noted that the inspectors observed with the FLIR a steady stream of hydrocarbon emissions from the BCU Pad 4 oil tank 5 and BCU Pad 3 wastewater tank emissions exhaust. He asked that Hilcorp confirm that the equipment, as well as the Smart Ash Burner observed at BCU Pad 4, is included in the state issued air permit and the facility's emissions inventory. Regarding the BCU Pad 3 wastewater tank emissions exhaust, Chad Johnson explained that both vents are operating as designed, the first is a standard vent with a flame arrestor and the second vent would alleviate high pressure and is equipped with a rupture disk.

The inspectors noted the effort that Hilcorp representatives made to repair the leaks that were found in a timely manner. They thanked the Hilcorp representatives for their time and cooperation over the two days. They departed the facility at approximately 2:45 pm.

9. Post Inspection Activities

On October 19, 2022, John Pavitt (EPA) sent an email to Natalia Lau and Greg Arthur of Hilcorp, to follow up on the air compliance inspection at Kenai Gas Field 34-31 and Beaver Creek Pads 3 and 4 on October 3-4, 2022. See Attachment 9. In the email, Mr. Pavitt asked for an update on repairs and records for leaks identified during the inspection, including components which at the time of the inspection had not been successfully repaired. Further, he asked that if leaks had not been repaired that Hilcorp provide photos showing that the components were tagged, or, photos identifying the items and their longitude/latitude or other identifiers. Additionally, he asked for several records, including the forms used to document all fugitive emissions and repairs in the September 2022 survey (the most recent survey) at the three sites, including: a. Fugitive Emissions Detection Record Log (page 3-5 of the Monitoring Plan), b. Fugitive Emissions Repair Record Log (3-6), c. Repair validation form – OGI re-check or Bubble check (3-7), and d. Delay of Repair Form (3-8).

Regarding leaking components found at BC Pad 4 during the survey on 9/8/22 that had not yet been repaired at the time of EPA's inspection (Waukesha Comp Bldg., Compressor Cylinder #3 and #4) that the manufacturer said were designed to vent, the email asked for documentation to show the manufacturer's statement.

Regarding the wastewater tank at BC Pad 3 that had been observed to have a steady stream of VOC vapors from the tank vent, the email asked for confirmation that the emission source is included with the Beaver Creek air permit emissions inventory. Similarly, regarding the Smart

Ash Burner observed at BC Pad 4, the email asked for confirmation that the emission source is included with the Beaver Creek air permit emissions inventory.

Additionally, asked about the 2021 Annual Report, in which Hilcorp reported that one “other” item at BC Pad 4, and a valve at KGF 34-31 were placed on a Delay of Repair schedule because repairs were not technically feasible. However, the report also states that the repairs were completed. The email asked what was technically infeasible about the repairs, and when and how were the repairs completed.

On October 20, 2022, Ms. Lau sent an email to Mr. Pavitt requesting photographs of the locations of the outstanding leaks he had noted in the October 9, 2022, email. See Attachment 10.

On October 21, 2022, Mr. Pavitt sent a follow-up email to Ms. Lau that included the photos requested. See Attachment 11.

On October 28, 2022, Ms. Lau sent an email to Mr. Pavitt requesting further information concerning the location of the leak from BC Pad 3 BC-13 HSU on the stem valve near the choke. See Attachment 12.

On October 28, 2022, Mr. Pavitt sent an email to Ms. Lau with additional information. See Attachment 12.

On November 2, 2022, Natalia Lau responded by email to John Pavitt. See Attachment 13. The email provided responses to EPA’s questions and documentation regarding the leaks that have been repaired. These records are under review.